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I. STATUS OF CLAIMS

Claims 1-32 are pending; Claims 1-32 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. *See Examiner's Office Action*, p. 4 (03 November 2006). Claims 1-3, 5-7, 10-13, 17-19, 21-23, and 26-29 stand rejected under U.S.C. 102(b) as being anticipated by Yao et al. (U.S. Patent 5,938,734) *See Examiner's Office Action*, p. 5 (03 November 2006). Claims 14-16 and 30-32 stand rejected under 35 U.S.C. 103(a) as being obvious over Yao in view of Gallagher et al. (U.S. Patent 5,644,786) *Id.* at p. 12.

II. ISSUES TO BE REVIEWED

The issues in this response relate to whether the art of record establishes a *prima facie* case of the unpatentability of Applicant's Claims 1-32. For reasons set forth elsewhere herein, Applicant respectfully asserts that the art of record does not establish a *prima facie* case of the unpatentability of any pending claim. Accordingly, Applicant respectfully requests that Examiner hold all pending Claims 1-32 allowable for at least the reasons described herein, and issue a Notice of Allowance on same.

III. ARGUMENT: ART OF RECORD DOES NOT ESTABLISH *PRIMA FACIE* CASE OF UNPATENTABILITY IN VIEW OF CITED ART OF RECORD

Examiner has stated "Claims 1-3, 5-7, 10-13, 17-19, 21-23, and 26-29 are rejected under U.S.C. 102(b) as being anticipated by Yao (U.S. Patent 5,938,734)" ("Yao" hereinafter); and "Claims 14-16 and 30-32 are rejected under 35 U.S.C. 103(a) as being obvious over Yao in view of Gallagher et al. (U.S. Patent 5,644,786)." *Examiner's Office Action*, pp. 5 and 12 (03 November 2006).

In response, Applicant respectfully asserts herein that, under the MPEP and legal standards for patentability as set forth below, the art of record does not establish a *prima facie* case of the unpatentability of Applicant's claims at issue. Specifically, Applicant respectfully shows below that the art of record does not show or suggest the recitations of Applicant's claims at issue, and hence fails to establish a *prima facie* case of unpatentability. Accordingly,

Applicant respectfully requests that the Examiner withdraw his rejections and hold all claims to be allowable over the art of record.

A. MPEP Standards for Patentability¹

The MPEP states as follows: “the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant. . . If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent.” MPEP § 2107 (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992)); *In Re Glaug* 283 F.3d 1335, 62 USPQ2d 1151 (Fed. Cir. 2002). (“During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the applicant is entitled to the patent.”). Accordingly, unless and until an examiner presents evidence establishing *prima facie* unpatentability, an applicant is entitled to a patent on all claims presented for examination.

1. MPEP Standards for Determining Anticipation

An examiner bears the initial burden of factually supporting any *prima facie* conclusion of anticipation. *In Re Skinner*, 2 U.S.P.Q.2d 1788, 1788-89 (B.P.A.I. 1986); MPEP § 2107 (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992) (“[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability....”)). Failure of an examiner to meet this burden entitles an applicant to a patent. *Id.* (“[i]f examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent”).

The MPEP indicates that in order for an examiner to establish a *prima facie* case of anticipation of an applicant’s claim, the examiner must first interpret the claim,² and thereafter

¹ Applicant is aware that Examiner is familiar with the MPEP standards. Applicant is merely setting forth the MPEP standards to serve as a framework for Applicant’s arguments following and to ensure a complete written record is established. Should Examiner disagree with Applicant’s characterization of the MPEP standards, Applicant respectfully requests correction.

show that the cited prior art discloses the same elements, in the same arrangement, as the elements of the claim which the examiner asserts is anticipated. More specifically, the MPEP states that “[a] claim is anticipated *only if each and every element as set forth in the claim is found*, either expressly or inherently described, in a single prior art reference. . . . The identical invention must be shown in as complete detail as is contained in the . . . claim. . . . The elements must be arranged as required by the claim”). *MPEP* § 2131. Consequently, under the guidelines of the MPEP set forth above, if there is *any* substantial difference between the prior art cited by an examiner and an applicant’s claim which the examiner asserts is rendered anticipated by the prior art, the prior art does NOT establish a *prima facie* case of anticipation and, barring other rejections, the applicant is entitled to a patent on such claim.

2. MPEP Standards for Determining Obviousness

“[T]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.”³ *MPEP* § 2142. The MPEP indicates that in order for an examiner to establish a *prima facie* case that an invention, as defined by a claim at issue, is obvious, the examiner must (1) interpret the claim at issue; (2) define one or more prior art reference components relevant to the claim at issue; (3) ascertain the differences between the one or more prior art reference components and the elements of the claim at issue; and (4) adduce objective evidence which establishes, under a preponderance of the evidence standard, a teaching to modify the teachings of the prior art reference components such that the prior art reference components can be used to construct a device substantially equivalent to the claim at issue. This last step generally encompasses two sub-steps: (1) adducement of objective evidence teaching how to modify the prior art components to achieve the individual elements of the claim at issue;

² With respect to interpreting a claim at issue, the MPEP directs that, during examination -- as opposed to subsequent to issue -- such claim be interpreted as broadly as the claim terms would reasonably allow, in light of the specification, when read by one skilled in the art with which the claimed invention is most closely connected. *MPEP* § 2111.

³ An invention, as embodied in the claims, is rendered obvious if an examiner concludes that although the claimed invention is not identically disclosed or described in a reference, the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *MPEP* § 2141 (citing 35 U.S.C. § 103).

and (2) adducement of objective evidence teaching how to combine the modified individual components such that the claim at issue, as a whole, is achieved. *MPEP* § 2141; *MPEP* § 2143. Each of these forgoing elements is further defined within the MPEP. *Id.*

a) Interpreting a Claim at Issue

With respect to interpreting a claim at issue, the MPEP directs that, during examination -- as opposed to subsequent to issue -- such claim be interpreted as broadly as the claim terms would reasonably allow when read by one skilled in the art with which the claimed invention is most closely connected. In practice, this is achieved by giving each of the terms in the claim the “plain meaning” of the terms as such would be understood by those having ordinary skill in the art, and if portions of the claim have no “plain meaning” within the art, or are ambiguous as used in a claim, then the examiner is to consult the specification for clarification. *MPEP* § 2111.

b) Definition of One or More Prior Art Reference Components Relevant to the Claim at Issue

Once the claim at issue has been properly interpreted, the next step is the definition of one or more prior art reference components (*e.g.*, electrical, mechanical, or other components set forth in a prior art reference) relevant to the properly interpreted claim at issue. With respect to the definition of one or more prior art reference components relevant to the claim at issue, the MPEP defines three proper sources of such prior art reference components, with the further requirement that each such source must have been extant at the time of invention to be considered relevant. These three sources are as follows: patents as defined by 35 U.S.C. § 102, printed publications as defined by 35 U.S.C. § 102, and information (*e.g.*, scientific principles) deemed to be “well known in the art”⁴ as defined under 35 U.S.C. § 102. *MPEP* § 2141.

⁴ The fact that information deemed to be “well known in the art” can serve as a proper source of prior art reference components seems to open the door to subjectivity, but such is not the case. As a remedy to this potential problem, *MPEP* § 2144.03 states that if an examiner asserts that his position is derived from and/or is supported by a teaching or suggestion that is alleged to have been “well known in the art,” and that if an applicant traverses such an assertion (that something was “well known within the art”), the examiner must cite a reference in support of his or her position. The same MPEP section also states that when a rejection is based on facts within the personal knowledge of an examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons. *Id.* Thus, all sources of prior art reference components must be objectively verifiable.

c) Ascertainment of Differences between Prior Art Reference Components and Claim at Issue; Teaching to Modify and/or Combine Prior Art Reference Components to Remedy Those Differences in Order to Achieve Recitations of Claim at Issue

With one or more prior art components so defined and drawn from the proper prior art sources, the differences between the one or more prior art reference components and the elements of the claim at issue are to be ascertained. Thereafter, in order to establish a case of *prima facie* obviousness, an examiner must set forth a rationale, supported by objective evidence⁵ sufficient to demonstrate under a preponderance of the evidence standard, that in the prior art extant at the time of invention there was a teaching to modify and/or combine the one or more prior art reference components to construct a device practicably equivalent to the claim at issue.

The preferable evidence relied upon is an express teaching to modify/combine within the properly defined objectively verifiable sources of prior art. In the absence of such express teaching, an examiner may attempt to establish a rationale to support a finding of such teaching reasoned from, or based upon, express teachings taken from the defined proper sources of such evidence (*i.e.*, properly defined objectively verifiable sources of prior art). *MPEP* § 2144; *In re Dembiczak*, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999).

The MPEP recognizes the pitfalls associated with the tendency to subconsciously use impermissible “hindsight” when an examiner attempts to establish such a rationale. The MPEP has set forth at least two rules to ensure against the likelihood of such impermissible use of hindsight. The first rule is that:

under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical “person of ordinary skill in the art” when the invention was unknown and just before it was made. In view of all factual information,⁶ the examiner must then make a determination whether the claimed invention “as a whole” would have been obvious at that time to that person. Knowledge of an Applicant’s disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the “differences,” conduct the search, and evaluate the “subject matter as a whole” of the invention. The tendency to resort to “hindsight” based upon an Applicant’s disclosure is often difficult to avoid due to

⁵ The proper sources of the objective evidence supporting the rationale are the defined proper sources of prior art reference components, discussed above, with the addition of factually similar legal precedent. *MPEP* § 2144.

⁶ “Factual information” is information actually existing or occurring, as distinguished from mere supposition or opinion. *Black’s Law Dictionary* 532 (5th ed. 1979).

the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

MPEP § 2142 (emphasis added). Thus, if the only objective evidence of such teaching to modify and/or combine prior art reference components is an applicant's disclosure, no evidence of such teaching exists.⁷

The second rule is that if an examiner attempts to rely on some advantage or expected beneficial result that would have been produced by a modification and/or combination of the prior art reference components as evidence to support a rationale to establish such teachings to modify and/or combine prior art reference components, the *MPEP* requires that such advantage or expected beneficial result be objectively verifiable teachings present in the acceptable sources of prior art (or drawn from a convincing line of reasoning based on objectively verifiable established scientific principles or teachings). *MPEP* § 2144. Thus, as a guide to avoid the use of impermissible hindsight, these rules from the *MPEP* make clear that absent some objective evidence, sufficient to persuade under a preponderance of the evidence standard, no teaching of such modification and/or combination exists.⁸

⁷ An applicant may argue that an examiner's conclusion of obviousness is based on improper hindsight reasoning. However, "[a]ny judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper." *MPEP* § 2145(X)(A) (emphasis added).

⁸ *In Re Sang Su Lee* 277 F.3d 1338 (Fed. Cir. 2002) ("When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness.") *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 U.S.P.Q.2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the *Graham* factors). "The factual inquiry whether to combine references must be thorough and searching." *Id.* It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. *See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000) ("a showing of a suggestion, teaching, or motivation to combine the prior art references is an 'essential component of an obviousness holding'" (quoting *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998))); *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); *In re Dance*, 160 F.3d 1339, 1343, 48 U.S.P.Q.2d 1635, 1637 (Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988) ("teachings of references can be combined only if there is some suggestion or incentive to do so.") (emphasis in original) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984)). The need for specificity pervades this authority. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan,

B. Technical Material Cited by Examiner Does Not Show/Suggest Recitations of Independent Claim 1 and Dependent Claims 2-25 as Presented Herein; Notice of Allowance of Same Respectfully Requested

1. Independent Claim 1

Independent Claim 1 recites as follows: “A method comprising: [a] determining an organization of at least one content of at least one spatial data storage system; and [b] defining a schedule of content transmission in response to the organization of the at least one content of the at least one spatial data storage system, the schedule identifying the content by one or more times.”⁹ As shown following, the technical material cited by Examiner does not show at least recitations such as those of clause [b] of Independent Claim 1, and thus Applicant respectfully requests that Examiner allow Independent Claim 1 for at least those reasons.

a) Technical Material Cited by Examiner Does not Show/Suggest Language of Clause [b] of Independent Claim 1

With respect to clause [b], Independent Claim 1 recites as follows: “A method comprising: [b] defining a schedule of content transmission in response to the organization of the at least one content of the at least one spatial data storage system....”

With respect to clause [b] of Independent Claim 1, Examiner has stated “Yao discloses ... defining a schedule of content transmission in response to the organization of the at least one content of the at least one spatial data storage system, the schedule identifying the content by one or more times (col. 7, lines 21-60; Fig. 5, elements S21-S25). *It should be noted that "carries out the scheduling" is analogous to "defining a schedule."* See Examiner's Office Action, p. 5 (03 November 2006) (emphasis in original).

Applicant respectfully points out that Yao does not disclose as suggested by Examiner. Rather, the portion of Yao cited by Examiner recites as follows:

with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed”); *In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (“even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.”)).

⁹ The lettering of the clauses herein is merely for sake of clarity of argument and should not be taken to imply any particular ordering of the clauses.

When a request for supply of the real time stream data is received from a client 7 through the network 6 (step S21), the request connection processing unit 21 first obtains a directory information for the requested real time stream data from the directory management unit 23 (step S22).

Then, the number m of unit streams to be used is obtained from the directory information (step S23), and as many stream structures in the scheduling unit 22 as necessary for holding information required in managing m pieces of unit streams are secured (reserved), while a necessary amount of regions in the buffer memory 4 are secured (reserved) (step S24).

Next, the scheduling unit 22 carries out the scheduling including a selection of transfer start timings for the unit streams S_0 to S_{m-1} to be used (step S25). Here, by the real time stream data storing procedure described above, m pieces of blocks $b(m \cdot \text{times} \cdot k + j)$ ($j=0, \dots, m-1$) which are continuous in the original real time stream data are sequentially distributed among the unit streams S_0 to S_{m-1} . Consequently, in order to carry out the transfer of these blocks continuously, the transfer start timings of the unit streams S_0 to S_{m-1} are displaced one another by the block transfer time T/m part.

Here however it is necessary for each one of the unit streams S_0 to S_{m-1} to select a time-slot for carrying out the disk access, so that it becomes possible to read out the respective top block from the disk device 31 which stores that top block, before the selected transfer start timing, without affecting the continuity of the other already connected unit streams. Note that the ID number of the disk device 31 which stores the top block of each unit stream can be obtained from the directory information obtained at the step S22. This time-slot selection operation will be described in detail below. When this condition is not satisfied, it is necessary to select different transfer start timings anew.

Each one of the unit streams S_0 to S_{m-1} so connected is then scheduled as an independent unit stream for which the block transfer time for one block is T/m , that is, scheduled according to the block transfer period T , the block size L , the time-slot interval I , and the block transfer time T/m .

See Detailed Description, Yao Col. 7 lines 21-60 (emphasis added).

As can be seen from the foregoing, the “scheduling” of Yao does not show or suggest the “defining a schedule of content transmission in response to the organization of the at least one content of the at least one spatial data storage system” recited in clause [b] of Independent Claim 1. To the contrary, Yao recites “scheduling including a selection of transfer start timings for the unit streams S_0 to S_{m-1} to be used (step S25) by the real time stream data storing procedure

described above, m pieces of blocks b ... continuous in the original real time stream data are sequentially distributed among the unit streams S0 to Sm-1. Consequently, in order to carry out the transfer of these blocks continuously, the transfer start timings of the unit streams S0 to Sm-1 are displaced one another by the block transfer time T/m part.” Thus, as seen, Yao does not show/suggest “defining a schedule of content transmission in response to the organization of the at least one content of the at least one spatial data storage system.” Instead, Yao recites “scheduling ... transfer start timings ... displaced one another by the block transfer time T/m.” Accordingly, under the MPEP standards as set forth above, the art of record does not establish a *prima facie* case that Yao anticipates Independent Claim 1. Thus, Applicant respectfully asks Examiner to hold Independent Claim 1 allowable and to issue a Notice of Allowability of same.

b) Technical Material Cited by Examiner in Relation to Clause [a] of Independent Claim 1 is Prima Facie Indicative that the Technical Material Cited by Examiner Does not Show/Suggest Language of Clause [b] of Independent Claim 1

Applicant points out that, notwithstanding the foregoing, if, for sake of argument,¹⁰ Applicant treats Examiner assertions with respect to clause [a] of Independent Claim 1 as true, then the foregoing points are strengthened by direct reference to Examiner’s own logic. With respect to clause [a], Independent Claim 1 recites as follows: “A method comprising: [a] determining an organization of at least one content of at least one spatial data storage system.”

With respect to clause [a] of Independent Claim 1, Examiner has stated “Yao discloses a method comprising: determining an organization of at least one content of at least one spatial data storage system (col. 6, lines 59-64; Fig. 4, element S18); *It should be noted that the "disk device" is analogous to the "spatial data storage system."*” See Examiner’s Office Action, p. 5 (03 November 2006) (emphasis in original).

Treating the Examiner’s assertion with respect to clause [a] of Independent Claim 1 as true for sake of argument, Applicant respectfully points out that the portion of Yao cited by

¹⁰ Applicant asserts that such is not true, but is merely treating such assertions as true herein for sake of argument.

Examiner as showing “determining an organization of at least one content of at least one spatial data storage system” actually recites as follows:

At this point, the disk device ID number Hj of the disk device which stores the top block of each unit stream, and a recording position of each block on a disk device which stores each block, are recorded as a directory information in the directory management unit 23 within the control device 2 (step S18).

See Detailed Description, Yao Col. 6 lines 59-64 (emphasis added).

Applicant respectfully points out that Examiner has identified the “disk device ID number Hj ... and a recording position of each block on a disk device” of Yao as showing “... an organization of at least one content of at least one spatial data storage system” of clause [a] of Independent Claim 1. Applicant further respectfully points out that, as shown above, Yao recites “scheduling ... transfer start timings ... displaced one another by the block transfer time T/m.” Consequently, by Examiner’s own logic Yao does not show/suggest the “defining a schedule of content transmission in response to the organization of the at least one content of the at least one spatial data storage system” of clause [b] of Independent Claim 1. That is, **Examiner has stated that Yao’s disclosure of “disk device ID number Hj ... and a recording position of each block on a disk device” relates to “an organization of at least one content.”** Yao recites “scheduling ... transfer start timings ... by the block transfer time T/m.” **Thus, since Yao does not recite scheduling in response to what Examiner has stated relates to “an organization of at least one content,” by Examiner’s own logic Yao does not show/suggest the “defining a schedule of content transmission in response to the organization of the at least one content of the at least one spatial data storage system” as recited in clause [b] of Independent Claim 1. Accordingly, under the MPEP standards as set forth above, by Examiner’s own logic the art of record does not establish a *prima facie* case that Yao anticipates Independent Claim 1. Accordingly, Applicant respectfully asks Examiner to hold Independent Claim 1 allowable and to issue a Notice of Allowability of same.**

2. Dependent Claims 2-16 Patentable for at Least Reasons of Dependency from Independent Claim 1

Claims 2-16 depend either directly or indirectly from Independent Claim 1. "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." *See* 35 U.S.C. § 112 paragraph 4. Consequently, Dependent Claims 2-16 are patentable for at least the reasons why Independent Claim 1 is patentable. Accordingly, Applicant respectfully requests that Examiner hold Dependent Claims 2-16 patentable for at least the foregoing reasons, and issue a Notice of Allowability on same.

3. Dependent Claim 10 Independently Patentable

Notwithstanding its dependency from Dependent Claim 1, Dependent Claim 10 is patentable on its own merits.

Dependent Claim 10 recites the "method of Claim 1, wherein said determining an organization of at least one content of at least one spatial data storage system further comprises: determining an organization of at least one content of at least one object address storage system." (emphasis added). With respect to Dependent Claim 10, Examiner has stated: "**As per claim 10,** Yao discloses ... determining an organization of at least one content of at least one object address storage system (col. 1, lines 13-19; col. 6, lines 59-64; Fig. 4, element S18)." *See Examiner's Office Action* p. 7 (03 November 2006) (emphasis in original).

Applicant respectfully points out that nowhere in the portions cited by Examiner does Yao show/suggest the "object address storage system" related recitations of Dependent Claim 10. That this is true can be seen from the following quotations of the portions of Yao cited by Examiner in relation to Dependent Claim 10:

Data to be sequentially transferred in real time such as video data and audio data are generally called "real time stream data". For a real time stream server for handling such real time stream data, a necessary condition is that it should be able to transfer the real time stream data stored in disk devices to each client while guaranteeing a continuity in real time.

See Detailed Description, Yao Col. 1 lines 13-19.

At this point, the disk device ID number Hj of the disk device which stores the top block of each unit stream, and a recording position of each block on a disk device which stores each block, are recorded as a directory information in the directory management unit 23 within the control device 2 (step S18).

See Detailed Description, Yao Col. 6 lines 59-64.

Applicant respectfully points out that the **portions of Yao cited by Examiner do not show/suggest the “object address storage system” related recitations of Dependent Claim 10.** Thus, under the MPEP standards as set forth above, the art of record does not establish a *prima facie* case that Yao anticipates Dependent Claim 10. Accordingly, Applicant respectfully asks Examiner to hold Dependent Claim 10 allowable and to issue a Notice of Allowability of same.

4. Dependent Claim 11 Independently Patentable

Notwithstanding its dependency from Dependent Claim 1, Dependent Claim 11 is patentable on its own merits.

Dependent Claim 11 recites the “method of Claim 1, wherein said defining a schedule of content transmission in response to the organization of the at least one content of the at least one spatial data storage system, the schedule identifying the content by one or more times further comprises: defining the schedule in response to an order in which the at least one content is spatially resident upon one or more spatial address devices.” (emphasis added). With respect to Dependent Claim 11, Examiner has stated: “**As per claim 11**, Yao discloses ... defining the schedule in response to an order in which the at least one content is spatially resident upon one or more spatial address devices (col. 7, lines 21-60; Fig. 5, elements S21-S25). *It should be that the “real time stream data” located on the disk device is analogous to “at least one content spatially resident upon one or more spatial address devices.”*” See Examiner’s Office Action p. 7 (03 November 2006) (emphasis in original).

Applicant respectfully points out that, as demonstrated above in relation to Independent Claim 1, **Yao recites “scheduling ... transfer start timings ... displaced one another by the block transfer time T/m.”** Thus, **Yao does not recite “defining the schedule in response to an order in which the at least one content is spatially resident upon one or more spatial address devices”** as

recited in Dependent Claim 11. Thus, under the MPEP standards as set forth above, the art of record does not establish a *prima facie* case that Yao anticipates Dependent Claim 11. Accordingly, Applicant respectfully asks Examiner to hold Dependent Claim 11 allowable and to issue a Notice of Allowability of same.

5. Dependent Claim 12 Independently Patentable

Notwithstanding its dependency from Independent Claim 1, Dependent Claim 12 is patentable on its own merits.

Dependent Claim 12 recites the “The method of Claim 11, wherein said defining the schedule in response to an order in which the at least one content is spatially resident upon one or more spatial address devices further comprises: determining a first time interval during which a first segment of a first content will be read from a first spatial address device; determining a second time interval during which a first segment of a second content will be read from a second spatial address device; and defining the schedule in response to the first time interval and the second time interval.” (emphasis added)

With respect to Dependent Claim 12, Examiner has stated:

As per claim 12, Yao discloses said defining the schedule in response to an order in which the at least one content is spatially resident upon one or more spatial address devices further comprises:

determining a first time interval during which a first segment of a first content will be read from a first spatial address device (col. 9, lines 33-43 and 58-64; Fig. 7); *It should be noted that "SO" is analogous to the "first segment of a first content" and "disk-0" is analogous to the "first spatial address device."*

determining a second time interval during which a first segment of a second content will be read from a second spatial address device (col. 9, lines 33-43 and 58-64; Fig. 7); *It should be noted that "SI" is analogous to the "first segment of a second content" and "disk-4" is analogous to the "second spatial address device."*

See Examiner's Office Action, p. 7 (03 November 2006) (emphasis added).

Applicant respectfully suggests that Yao does not recite as inadvertently misread by Examiner. Rather, Applicant further respectfully points out that Yao recites as follows:

When a request for supply of the real time stream data is received from a client 7 through the network 6 (step S21), the request connection processing unit 21 first obtains a directory information for the requested real time stream data from the directory management unit 23 (step S22).

Then, the number m of unit streams to be used is obtained from the directory information (step S23), and as many stream structures in the scheduling unit 22 as necessary for holding information required in managing m pieces of unit streams are secured (reserved), while a necessary amount of regions in the buffer memory 4 are secured (reserved) (step S24).

Next, the scheduling unit 22 carries out the scheduling including a selection of transfer start timings for the unit streams S0 to Sm-1 to be used (step S25). Here, by the real time stream data storing procedure described above, m pieces of blocks ... which are continuous in the original real time stream data are sequentially distributed among the unit streams S0 to Sm-1. Consequently, in order to carry out the transfer of these blocks continuously, the transfer start timings of the unit streams S0 to Sm-1 are displaced one another by the block transfer time T/m part.

....

Each one of the unit streams S0 to Sm-1 so connected is then scheduled as an independent unit stream for which the block transfer time for one block is T/m, that is, scheduled according to the block transfer period T, the block size L, the time-slot interval I, and the block transfer time T/m.

See Detailed Description, Yao. Col. 7 lines 21-60 (emphasis added).

As Examiner can see from the foregoing, Yao recites “m pieces of blocks ... which are continuous in the original real time stream data are sequentially distributed among the unit streams S0 to Sm-1.” Thus, Yao does not recite at least “determining a second time interval during which a first segment of a second content will be read from a second spatial address device” as recited in **Dependent Claim 12**. Thus, under the MPEP standards as set forth above, the art of record does not establish a *prima facie* case that Yao anticipates Dependent Claim 12. Accordingly, Applicant respectfully asks Examiner to hold Dependent Claim 12 allowable and to issue a Notice of Allowability of same.

C. Technical Material Cited by Examiner Does Not Show Recitations of Independent Claim 17 and Dependent Claims 18-32 as Presented Herein; Notice of Allowance of Same Respectfully Requested

Independent Claim 17 and Dependent Claims 18-32 are respective “means for” versions of Independent Claim 1 and Dependent Claims 2-16. Applicant respectfully points out that, with respect to “means for” claims, MPEP § 2182, *Scope of the Search and Identification of the Prior Art*, states that with respect to patentability examination of means for claims “the *application* of a prior art *reference* to a *means* or step *plus function* limitation *requires* that the *prior art* element *perform* the *identical function* specified in the claim.”

In view of these MPEP guidelines, Applicant respectfully suggests that the art of record does not establish a *prima facie* case of the unpatentability of Independent Claim 17 and Dependent Claims 18-32 for reasons analogous to those why such art does not establish a *prima facie* case of unpatentability of Independent Claim 1 and Dependent Claims 2-16 (e.g., since the functions of Independent Claim 17 are similar to the operations of Independent Claim 1, Examiner has not established a *prima facie* case that means performing the functions of Independent Claim 17 are taught in the art; other claims are like patentable by extension). Hence, Independent Claim 17 and Dependent Claims 18-32 are patentable for at least the reasons why Independent Claim 1 and Dependent Claims 2-16 are patentable. Accordingly, Applicant respectfully requests that Examiner hold Independent Claim 17 and Dependent Claims 18-32 patentable for at least the reasons as set forth related to Independent Claim 1 and Dependent Claims 2-16, and to thus issue a Notice of Allowability of same.

IV. ARGUMENT: CLAIMS 1-32 ARE DIRECTED TOWARD STATUTORY SUBJECT MATTER

Examiner has stated “Claims 1-32 are rejected under 35 U.S.C. 101 because the **claimed invention is directed to non-statutory subject matter**. The claims fail to produce a tangible result. To be tangible the claimed invention must produce a practical application or real world result. Independent claims 1 and 17 merely recite a determination step and a definition step. The determination and definition steps are never applied in a

meaningful way to produce a practical application or real world result (i.e. the determination and definition steps do not result in a physical transformation). Thus, claims 1-32 are directed to non-statutory subject matter.” *Examiner’s Office Action*, p. 4 (03 November 2006).

In response to Examiner, Applicant respectfully points out that the current version of the MPEP states as follows

2106*>Patent< Subject Matter **>Eligibility< [R-5]

I. INTRODUCTION

**>These Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (“Guidelines”) are to assist examiners in determining, on a case-by-case basis, whether a claimed invention is directed to statutory subject matter.

...

II. DETERMINE WHAT APPLICANT HAS INVENTED AND IS SEEKING TO PATENT

...

A. Identify and Understand Any >Utility and/or<Practical Application Asserted for the Invention

The claimed invention as a whole must >be useful and< accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” *State Street*, 149 F.3d at *1373-74<, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of “real world” value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 **> (1966); *In re Fisher*, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); *In re Ziegler*, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)).

USPTO personnel should review the application to identify any asserted use. The applicant is in the best position to explain why an invention is believed useful. Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful. Such a statement will usually explain the purpose of the invention or how the invention may be used (e.g., a compound is believed to be useful in the treatment of a particular disorder). Regardless of the form of statement of utility, it must enable one ordinarily skilled in the art to understand why the applicant believes the claimed invention is useful. See MPEP § 2107 for utility examination guidelines. **An applicant may assert more than one utility and practical application, but only one is necessary.<**

MPEP § 2106 (emphasis added).

In view of the foregoing, Applicant respectfully points out that Independent Claim 1 recites “a schedule of content transmission ... the schedule identifying the content by one or more times.” Applicant respectfully points out that Applicant’s Figure 6 and/or its supporting text(s) appearing on pages 14-15 of Applicant’s detailed description provide as follows:

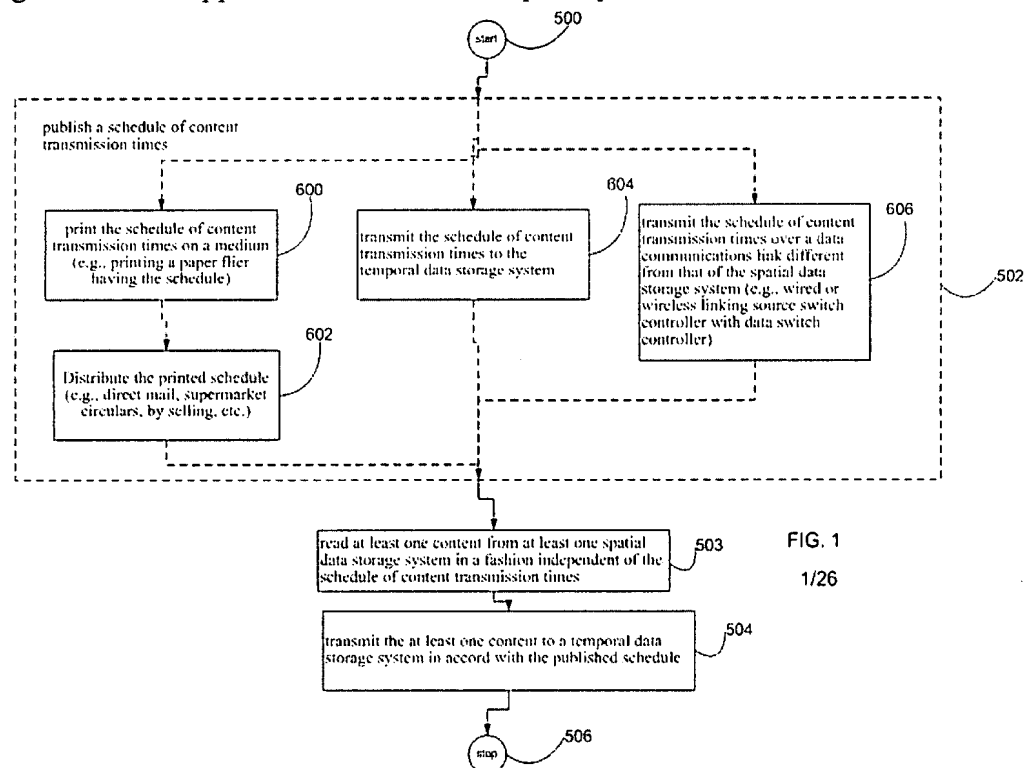


FIG. 1
1/26

Referring now to Figure 6, illustrated is a high-level logic flowchart depicting several alternate embodiments of the high-level logic flowchart of Figure 5. Depicted is that in one alternate embodiment method step 502 includes method steps 600 and 602. Method step 600 shows printing the schedule of content transmission times on a medium. In one implementation, a paper flier having a list of contents and associated times of transmission of such contents are printed. For example, printing a page containing the information “Joe Smith’s echocardiogram will be transmitted at times T1, T8, T30, etc.” Method step 602 depicts distributing the printed schedule. The manner of distribution can vary dependent upon content. For example, in one implementation, the distribution is accomplished by direct mail of the printed schedule (e.g., for medical content); in another, by giving away, at supermarkets, schedules having the printed schedule (e.g., for entertainment content); in yet another, by selling the printed schedules through various outlets, etc.

Figure 6 also shows that in another alternate embodiment method step 502 includes method 604. Method step 604 illustrates transmitting the schedule of

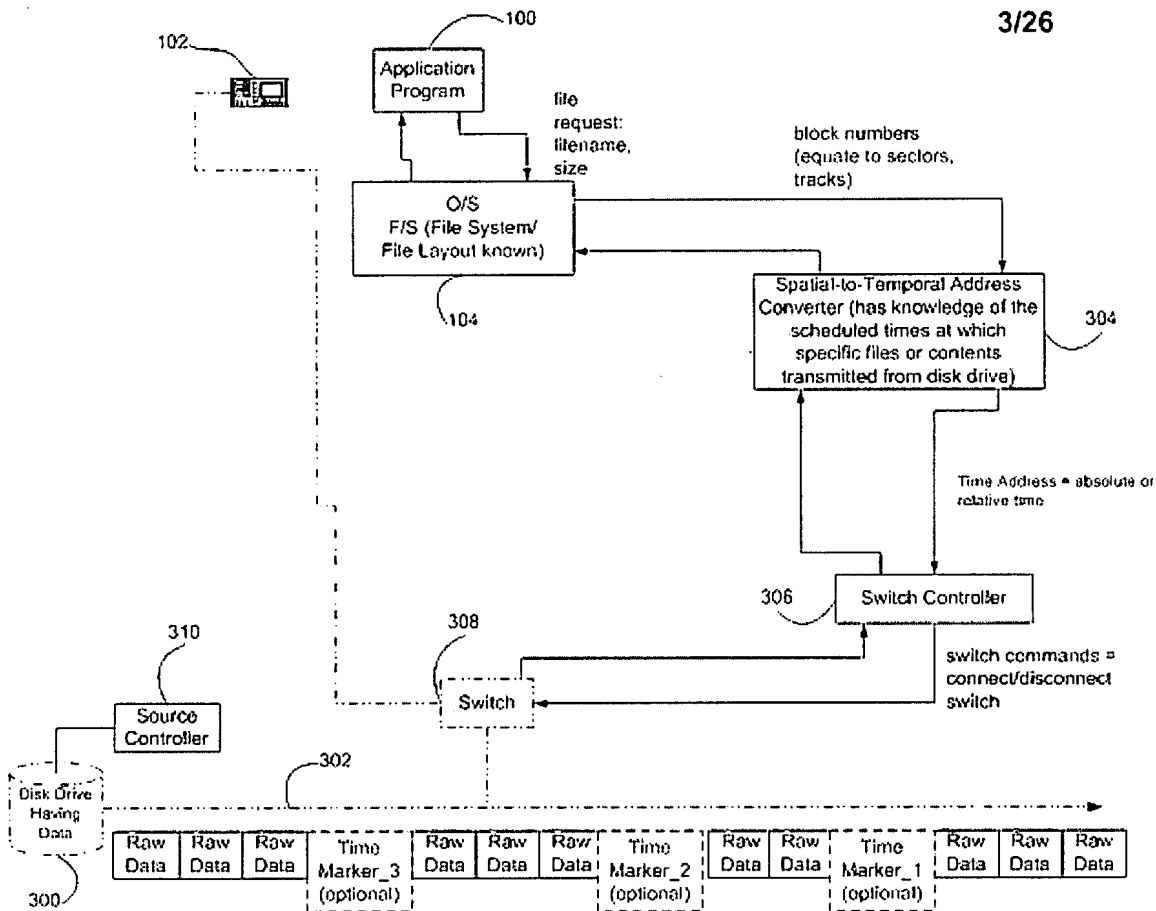
content transmission times to the temporal data storage system. For example, transmitting a schedule, at predetermined intervals of time, onto a transmission medium. In one implementation, a schedule is transmitted at predetermined times referenced against an atomic clock; in another, a schedule is transmitted at predetermined times referenced against a marker transmitted in the data stream; in another, a schedule is transmitted at predetermined times referenced against an event of the data stream (e.g., an event might be a first marker received after a second marker).

Figure 6 also shows that in another alternate embodiment method step 502 includes method 606. Method step 606 depicts transmitting the schedule of content transmission times over a data communications link different from that of the spatial data storage system. For example, transmitting the schedule over a wired or wireless pathway linking a source controller with a data switch controller, wherein the wired or wireless pathway is different from any wired or wireless pathways whereby content data is transmitted between a data source and a data switch.

Applicant's Present Application, USAN 10/734,659, pp. 14-15 (emphasis added).

In addition to the foregoing, Applicant further respectfully points out that Applicant's Figure 3 and/or its supporting text(s) appearing at pages 11-12 of Applicant's detailed description provide as follows:

FIG. 3
3/26



With reference now to Figure 3, illustrated is a block diagram of a spatial-to-temporal address translation method and system. Disk drive 300 is shown reading data from disk drive 300 and transmitting the read data onto communications media 302 in a predetermined fashion. The inventors have devised many ways in which such reading and transmission may be implemented. In one implementation, a related-art disk drive is configured such that it sequentially reads and transmits all the tracks on a disk in a relatively continuous loop. In another implementation, a hard disk drive has a stationary arm with multiple attached disk heads, some of which are dedicated to particular disk tracks; electronic switching is used to read the tracks (Figure 17).

...

In response to the read data block commands, spatial-to-temporal address converter 304 is depicted as converting the data block addresses into time addresses, and transmitting time addresses to switch controller 306. Spatial-to-temporal address converter 304 converts the data block commands to associated time addresses that indicate when data necessary to satisfy the read data block commands should be present at the input of switch 308. Spatial-to-temporal

address converter 304 can perform the conversion efficiently because spatial-to-temporal address converter 304 has knowledge of and thus can consult the scheduled times at which disk drive 300 transmits specific content onto communications medium 302 (examples showing how address converter 304 can gain this knowledge from source controller 310 are discussed herein). In one implementation, the time addresses are absolute (e.g., referenced against time associated with at least one of an atomic clock, a global clock, a relative clock, a transmitted clock, and a number of ticks relative to some specified received data). In another implementation, the time addresses are relative (e.g., relative to one or more time markers such as those shown in the stream of data on communications media 302, relative to known starting and stopping times of a “loop” of data continuously transmitted by disk drive 300, or relative to another appropriate referent.). In other alternate implementations, the time stamps of various packets of data can be used to provide temporal addressing; in some instances, these time stamps will have been created for purposes other than temporal addressing, while in other instances, the time stamps will be expressly created for the purpose of temporal addressing. In yet other alternate implementations, formal packets are not used, and raw data is switched based on time, without the use of any particular patent headers. That is, the present subject matter contemplates both packet-based and non-packet based implementations of methods and/or systems.

In response to the time addresses received from spatial-to-temporal address converter 304, switch controller 306 is illustrated as issuing connect or disconnect commands to switch 308. In response to the connect and/or disconnect commands, switch 308 is shown as appropriately connecting with or disconnecting from communications medium 302. In one embodiment, when switch 308 is connected with communications medium 302, switch controller 306 receives the data obtained by switch 308.

Applicant's Present Application, USAN 10/734,659, pp. 11-12 (emphasis added).

Applicant further points out that many other examples appear throughout the specification (e.g., detailed description and claims) and/or drawings, such as in relation to Figures 4 and 26 and/or their supporting text(s). In addition, Applicant points out that other examples will appear to those of skill in the art in light of the teachings of Applicant's disclosure.

In light of the foregoing, Applicant respectfully asserts that the claimed invention as a whole does provide for a “useful, concrete and tangible result,” such as discussed in *MPEP* § 2106 as set forth above. Hence, under the *MPEP* guidelines such as those set forth herein the claimed invention does constitute patentable subject matter. Accordingly, Applicant respectfully requests that Examiner withdraw the 35 U.S.C. § 101 based rejections of Claims 1-32 and to

issue a Notice of Allowability of same. Should Examiner disagree, Applicant respectfully requests a courtesy call on this issue.

V. CONCLUSION

As explained herein, Applicant does not consider the art of record to render the pending claims unpatentable. Insofar as that the Applicant has herein argued the pending claims patentable, Applicant may not have herein explicitly addressed all the rejections and/or statements in Examiner's Office Action. The fact that the rejections and/or statements are not herein explicitly addressed should NOT be taken as an admission of any sort, and Applicant hereby reserves any and all rights to contest such rejections and/or statements at a later time. Specifically, no waiver (legal, factual, or otherwise), implicit or explicit, is hereby intended (e.g., with respect to any facts of which Examiner took Official Notice, and/or for which Examiner has supplied no objective showing, Applicant hereby contests those facts and requests express documentary proof of such facts at such time at which such facts may become relevant).

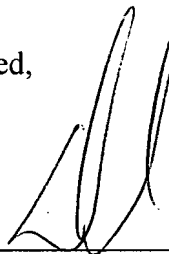
As shown above, the portions of the technical material cited by Examiner do not match the recitations of Applicant's herein-presented claims. Consequently, Applicant respectfully requests that Examiner issue a Notice of Allowability on all pending claims for at least the reasons set forth herein.

With respect to any cancelled claims, such cancelled claims were and continue to be a part of the original and/or present patent application(s). Applicant hereby reserves all rights to present any cancelled claim or claims for examination at a later time in this or another application. Applicant hereby gives public notice that any cancelled claims are still to be considered as present in all related patent application(s) (e.g. the original and/or present patent application) for all appropriate purposes (e.g., written description and/or enablement). Applicant does NOT intend to dedicate the subject matter of any cancelled claims to the public.

If the undersigned attorney has overlooked a relevant teaching in any of the references, the Examiner is requested to point out specifically where such teaching may be found. Furthermore, although not expressly set forth herein, Applicant continues to assert all points of any previous Office Action, and no waiver (legal, factual, or otherwise), implicit or explicit, is hereby intended.

The Examiner is encouraged to contact the undersigned by telephone at (425) 467-2260 to discuss the above and any other distinctions between the claims and the applied references, if desired. Also, if the Examiner notes any informalities in the claims, he is encouraged to contact the undersigned to expediently correct such informalities.

Respectfully submitted,



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Attorney
Registration No. 42,434

DRC:jmb

Enclosures:

- Postcard
- Check
- Petition for Extension of Time (+ 2 copies)
- Post-Filing Transmittal (+ copy)

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